

## Perry, Renee

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**From:** Renee Perry <Perry.Renee@epamail.epa.gov> on behalf of  
Prakash\_Bhave/RTP/USEPA/US <Prakash\_Bhave/RTP/USEPA/US@epamail.epa.gov>  
**Sent:** Tuesday, September 20, 2016 11:46 AM  
**To:** Perry, Renee

----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhave/RTP/USEPA/US  
To: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>,  
Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 04/04/2012 04:26 PM  
Subject: Re: Thanks and file formats

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[attachment "aorga\_12.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_11.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_10.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_09.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_08.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_07.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_06.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_05.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_04.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_03.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_02.monavg" deleted by Prakash Bhave/RTP/USEPA/US] [attachment "aorga\_01.monavg" deleted by Prakash Bhave/RTP/USEPA/US]

"Jonathan Buonocore" ---03/14/2012 03:04:57 PM---Great, thanks! How big are the files, by the way? The mail servers here reject files >25MB, so I've

From: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
To: Prakash Bhave/RTP/USEPA/US@EPA, "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 03/14/2012 03:04 PM  
Subject: Re: Thanks and file formats

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Great, thanks! How big are the files, by the way? The mail servers here reject files >25MB, so I've been using Dropbox, and I can send you my info for that if need be.

- Jonathan

>>> Prakash Bhave <Bhave.Prakash@epamail.epa.gov> 3/14/2012 2:52 PM >>>

If you've dealt with netCDF files, we're all set. Thanks for the confirmation! -  
Prakash

"Katherine von Stackelberg" <kvon@hsph.harvard.edu> wrote on 03/14/2012 02:49:25 PM:

> From: "Katherine von Stackelberg" <kvon@hsph.harvard.edu>  
> To: Prakash Bhave/RTP/USEPA/US@EPA  
> Cc: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
> Date: 03/14/2012 02:49 PM  
> Subject: Thanks and file formats  
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> Hi Prakash, thanks again for taking the time to talk today!

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> I asked Jonathan, cc:ed here, and he wasn't sure about I/O API as he  
> typically works with netCDF files. We weren't sure if I/O API is a  
> file format per se? Neither one means much to me (!) but hopefully  
> it means something to you! Let us know what you think about that.  
>  
> Thanks again, best, Trina  
>  
> \_\_\_\_\_  
  
> Katherine von Stackelberg, ScD  
  
> Harvard Center for Risk Analysis  
  
> 617.998.1037  
  
> www.hcra.harvard.edu  
  
> and  
  
> www.srphsph.harvard.edu  
  
>

----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhawe/RTP/USEPA/US  
To: Jonathan Buonocore <jbuonoco@hsph.harvard.edu>,  
Cc: KVON@hsph.harvard.edu  
Date: 04/10/2012 11:19 AM  
Subject: Re: Thanks and file formats

---

No rush from my end, but I'd appreciate updates on your progress as I'm curious about the results and eager to be an active collaborator with you and Trina on this. -Prakash

Jonathan Buonocore <jonathan.buonocore@gmail.com> wrote on 04/10/2012 09:38:25 AM:

> From: Jonathan Buonocore <jonathan.buonocore@gmail.com>  
> To: Prakash Bhawe/RTP/USEPA/US@EPA  
> Date: 04/10/2012 09:38 AM  
> Subject: Re: Thanks and file formats  
>  
> Thanks for this. I have an imminent deadline on Friday, so I'll  
> probably start working with these next week.  
>  
> - Jonathan  
>  
> On Apr 4, 2012, at 4:26 PM, Prakash Bhawe wrote:  
>  
> (See attached file: aorga\_12.monavg) (See attached file:  
> aorga\_11.monavg) (See attached file: aorga\_10.monavg) (See attached  
> file: aorga\_09.monavg) (See attached file: aorga\_08.monavg) (See  
> attached file: aorga\_07.monavg) (See attached file: aorga\_06.monavg)  
> (See attached file: aorga\_05.monavg) (See attached file:  
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> 2012 02:49:25 PM:  
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To: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>,  
Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/25/2012 12:36 PM  
Subject: Re: BenMAP nationwide lat/long grid

I've never used dropbox before. But if you send me the directions, I'll be happy to drop the file there. -Prakash

"Jonathan Buonocore" ---05/25/2012 12:07:54 PM---I don't know if we have access to some kind of FTP site. I've asked this for CMAQ data before and m

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- Jonathan

>>> Prakash Bhav <Bhav.Prakash@epamail.epa.gov> 5/25/2012 11:31 AM >>>

Hi Jonathan,

Apologies for the delay. This week has run away from me and I haven't had time to extract the needed info. The data file I have is 30MB. It contains a lot of extraneous info that you don't need. But given that I won't be able to get to it today (I'm attending to some water damage in my basement) and we have a long weekend coming up, perhaps it's best that I put the raw data file on your ftp site and see if you can take it from there.

Can you send me those instructions?

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Date: 05/17/2012 03:17 PM  
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Hi Prakash, I hope everything's going well over there. Can you send me a file with the lat & long for the grid squares in the CMAQ file?

Thanks,

- Jonathan

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To: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>,  
Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/21/2012 09:47 AM  
Subject: Re: BenMAP nationwide lat/long grid

---

Hi Jonathan,

I just located the file that contains what you're looking for. Will need another day or so to extract the right info.

Prakash

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Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/25/2012 06:17 PM  
Subject: Re: BenMAP nationwide lat/long grid

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Upload complete. The data file is in your dropbox. Let me know if you encounter any problems with it... and sorry for delaying you this week. -Prakash

"Jonathan Buonocore" ---05/25/2012 02:17:17 PM---I just created a new folder in my Dropbox account, you should be able to upload to that via the webs

From: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
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Subject: Re: BenMAP nationwide lat/long grid

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I just created a new folder in my Dropbox account, you should be able to upload to that via the website, and if not, then certainly through the (small) Dropbox program. Let me know if you have any trouble!

- Jonathan

>>> Prakash Bhav <Bhav.Prakash@epamail.epa.gov> 5/25/2012 12:36 PM >>>

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To: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>,  
Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/29/2012 03:38 PM  
Subject: Re: total SOA?

---

Hi Jonathan,

We should probably talk through this step first. There's no reason to expect correlations between modeled SOA and measured OC from the STN. Recall that SOA is just one component of organic carbon -- the other component being primary organics that are emitted directly from tailpipes and wood smoke. Perhaps you want total OC from CMAQ?

Prakash

"Jonathan Buonocore" ---05/29/2012 12:28:38 PM---Hi Prakash,

From: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
To: Prakash Bhawe/RTP/USEPA/US@EPA, "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/29/2012 12:28 PM  
Subject: total SOA?

---

Hi Prakash,

Hope everything is going well over there. Thanks for the lat & long files, everything seems to be working smoothly with those. Is there any way you could also send us the total SOA from those CMAQ runs? We'd like it to run a quick correlation between CMAQ and the STN network. Either dropbox or email is fine.

Thanks,

- Jonathan

----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhawe/RTP/USEPA/US  
To: Jonathan Buonocore <JBUONOCO@hsph.harvard.edu>,  
Cc: "von Stackelberg, Katherine Ellen" <kvon@hsph.harvard.edu>  
Date: 06/11/2012 08:53 AM  
Subject: Re: tech support problem

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Hi Jonathan,

Let me know if you aren't getting a response to these questions. Charles works in my building so I should be able to track him down if needed.

Prakash

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Prakash Bhawe, Ph.D. | Science Advisor for Atmospheric Modeling & Analysis Division | [bhave.prakash@epa.gov](mailto:bhave.prakash@epa.gov)  
National Exposure Research Laboratory | Office of Research & Development | U.S. Environmental Protection Agency  
109 T.W. Alexander Dr. Research Triangle Park, NC 27711 | Room D255, Mail Drop E243-05  
ph: 919.541.2194 | fax: 919.541.1379 | <http://www.epa.gov/amad/Staff/bhave.html>

"Jonathan Buonocore" ---06/01/2012 11:54:18 AM---Hi Charles, Sorry to be a bother again, but I'm running into another BenMAP problem. We're getting

From: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
To: Charles Fulcher/RTP/USEPA/US@EPA  
Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>, Prakash Bhawe/RTP/USEPA/US@EPA  
Date: 06/01/2012 11:54 AM  
Subject: Re: tech support problem

---

Hi Charles,

Sorry to be a bother again, but I'm running into another BenMAP problem. We're getting the hang of things and are able to produce reports and everything, but we're having some trouble with the results.

I made a tile plot for the CMAQ run, and got the first plot attached here. Even without any shape file, you can pick out the outline of the US and see major cities and roads, which seems about right to both of us.

After generating the BenMAP reports and making maps with those, we got very different maps, showing low average concentrations in FL and GA, which are the highest in this plot. So I graphed the CMAQ



grid (36km x 36km, full US) in BenMAP and got the second plot (apologies for the screenshot). They are very different, and the BenMAP plot has some really odd behavior in it. Any idea what is going on? It seems to me like BenMAP might be transposing the grid, or somehow putting it in at the wrong alignment.

The header for the AQ grid file is attached.

Thanks for your help,

- Jonathan

>>>> Charles Fulcher <Fulcher.Charles@epamail.epa.gov> 5/15/2012 1:50 PM >>>>

Jonathan,

An example of a PM input file that would allow the estimation of mortality impacts is below. However, it is important to think about what this is actually saying. As written, this indicates that the value is the average of the quarterly averages of the 24-hour means. This is because the PM mortality functions within BenMAP all use the quarterly mean of the 24 hour means as the input metric. The Ozone mortality functions use various metrics but do not specify a seasonal metric. So you should ensure that you are creating a metric that is compatible with the health impact function you are trying to use.

Col	Row	Metric	Seasonal Metric	Statistic	Values
1	1	D24HourMean	QuarterlyMean	Mean	0.039084145
1	2	D24HourMean	QuarterlyMean	Mean	0.039292294
1	3	D24HourMean	QuarterlyMean	Mean	0.039518225
1	4	D24HourMean	QuarterlyMean	Mean	0.039787579
1	5	D24HourMean	QuarterlyMean	Mean	0.040098273
1	6	D24HourMean	QuarterlyMean	Mean	0.040409991
1	7	D24HourMean	QuarterlyMean	Mean	0.040726157
1	8	D24HourMean	QuarterlyMean	Mean	0.041038929
1	9	D24HourMean	QuarterlyMean	Mean	0.04130825
1	10	D24HourMean	QuarterlyMean	Mean	0.041516989
1	11	D24HourMean	QuarterlyMean	Mean	0.04172115
1	12	D24HourMean	QuarterlyMean	Mean	0.041941744
1	13	D24HourMean	QuarterlyMean	Mean	0.042114843
1	14	D24HourMean	QuarterlyMean	Mean	0.042295443
1	15	D24HourMean	QuarterlyMean	Mean	0.042472467
1	16	D24HourMean	QuarterlyMean	Mean	0.042650747

Charlie

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Charles Fulcher, Ph.D.  
Economist  
U.S. Environmental Protection Agency  
Office of Air Quality Planning & Standards  
Health and Environmental Impacts Division  
Risk and Benefits Group  
109 T.W. Alexander Drive (C539-07)  
Research Triangle Park, NC 27711  
Tel: (919) 541-2774 Fax: (919) 541-0839

"Jonathan Buonocore" ---05/15/2012 12:35:17 PM---Thanks for the offer to help. We have CMAQ output that represents annual average deltas between a b

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To: Charles Fulcher/RTP/USEPA/US@EPA  
Cc: "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/15/2012 12:35 PM  
Subject: Re: tech support problem

---

Thanks for the offer to help. We have CMAQ output that represents annual average deltas between a baseline run and a scenario run. I've tried a few different variations of the input files (column headers with and without spaces, Metric column blank or saying "AnnualAverage"). Nothing has helped, and one of these gave me no health impact options. The header and first few rows are attached.

Thanks for your help.

- Jonathan

>>> Charles Fulcher <Fulcher.Charles@epamail.epa.gov> 5/15/2012 11:42 AM >>>

Jonathan,

Your problem seeing the mortality functions is likely due to your air quality grids. More specifically, the air quality metric needed by the mortality functions (e.g., quarterly D24HourMean in the case of PM2.5) is not found in the air quality grid, so the functions are filtered out by the program when you get to the screen where you select the functions to estimate. I could take a look at your input files and tell you if this is the problem, if you'd like. There are mortality functions in the EPA Standard Health Functions, but the program isn't allowing you to use them because it can't find the needed metric.

As for your question about geography labels, the BenMAP GIS is woefully underpowered and frankly we rarely use it. This is an area we hope to improve in the new version. However, you can tell what the state is from the column number. The column number in the state grid definition corresponds to the state FIPS code (a listing of which can be found at <http://www.epa.gov/enviro/html/codes/state.html>). For the county grid definition, the column is the state FIPS code and the row is the county FIPS code.

I hope this helps,  
Charlie

-----  
Charles Fulcher, Ph.D.  
Economist  
U.S. Environmental Protection Agency  
Office of Air Quality Planning & Standards  
Health and Environmental Impacts Division  
Risk and Benefits Group  
109 T.W. Alexander Drive (C539-07)  
Research Triangle Park, NC 27711  
Tel: (919) 541-2774 Fax: (919) 541-0839

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Date: 05/15/2012 11:11 AM  
Subject: Re: tech support problem

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Hi Charles,

I hate to be a bother again, but I'm running into two other problems. I am able to get BenMAP to generate reports now with our air quality grids, which is good, but I can not

get it to generate mortality estimates, it only gives me the option to use the EPA Standard Health Functions, which contain a lot of different morbidities, but not any mortality estimates. Also, I can't get the reports to label the geography - for instance, I generated a state-level report, but the geography label I get is column (1-56) and row (all 1's) numbers.

What am I missing?

Thanks,

- Jonathan

>>> Charles Fulcher <Fulcher.Charles@epamail.epa.gov> 5/4/2012 4:59 PM >>>

Jonathan,  
The One-Step error is what I suspected, and that can be fixed by specifying the correct files as I outlined. The other error is because the functions you are trying to estimate (i.e., the ones that appear in the bottom portion of the window) require a baseline incidence rate as part of the calculation. So for each of those functions, you will need to click on either the Incidence Dataset or Prevalence Dataset (in the case of Asthma Exacerbation) column and select the dataset containing the baseline rates you would like to use. For many endpoints, there will be a single choice, but we do project mortality rates and so in that case you pick the year for the baseline mortality rate that is closest to your analysis year.

Charlie

-----

Charles Fulcher, Ph.D.  
Economist  
U.S. Environmental Protection Agency  
Office of Air Quality Planning & Standards  
Health and Environmental Impacts Division  
Risk and Benefits Group  
109 T.W. Alexander Drive (C539-07)  
Research Triangle Park, NC 27711  
Tel: (919) 541-2774 Fax: (919) 541-0839

"Jonathan Buonocore" ---05/04/2012 04:45:37 PM---We are, and we are working together.  
That did seem like a bug, since it was referring to files in an

From: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
To: Charles Fulcher/RTP/USEPA/US@EPA, "Katherine von Stackelberg" <KVON@hsph.harvard.edu>  
Date: 05/04/2012 04:45 PM  
Subject: Re: tech support problem

---

We are, and we are working together.

That did seem like a bug, since it was referring to files in an older version. Glad to know!

We tried the same analysis again using the custom setup, and got a different error message (both attached). Basically what we are trying to do is run an air quality benefits calculation using one layer of a CMAQ output that is the result of a base run - case run calculation. I tried to fool it into doing the calculation the normal way by creating a base run of all 0s, but that didn't work. Any help you can provide is greatly appreciated!

- Jonathan

>>> Charles Fulcher <Fulcher.Charles@epamail.epa.gov> 5/4/2012 4:02 PM >>>

Hi Jonathan,

Are you (and perhaps Katherine von Stackelberg, since she sent a similar email that reached me by a circuitous route) by any chance trying to use the One-Step Analysis in BenMAP? If so, you have unfortunately stumbled upon a bug in the program associated with the One-Step Analysis. Generally we try to steer people away from using the One-Step Analysis due to such issues and it will be removed from the new version of BenMAP currently under development. However, there is a solution to your immediate problem. From the main BenMAP window, select 'Tools' in the upper menu bar and then 'One-Step Setup'. In the Window that appears, select the pollutant you are trying to run and the 'CFG File Name' and 'APV File Name' fields will populate, and the CFG file name should match the name of the file in your error message. You can click 'Browse' and select C:\Program Files\BenMAP 4.0\Configurations\PM\_Wizard.cfg as the CFG file and C:\Program Files\BenMAP 4.0\Configurations\PM\_Wizard.apv as the APV file if you doing a run for PM. The ozone files are C:\Program Files\BenMAP 4.0\Configurations\Ozone\_Wizard.cfg and C:\Program Files\BenMAP 4.0\Configurations\Ozone\_Wizard.apv, respectively.

I hope this helps. If you are getting some other error that this does not fix, could you provide a screenshot of the error message?

Best regards,  
Charlie

-----  
Charles Fulcher, Ph.D.  
Economist  
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"Jonathan Buonocore" ---05/04/2012 01:51:04 PM---Hi, I'm having a problem running BenMAP 4.0 on my computer. When I try to run an analysis it looks

From: "Jonathan Buonocore" <JBUONOCO@hsph.harvard.edu>  
To: BenMap@EPA  
Date: 05/04/2012 01:51 PM  
Subject: tech support problem

---

Hi, I'm having a problem running BenMAP 4.0 on my computer. When I try to run an analysis it looks for files from a BenMAP 3.0 installation. Do I need to have both versions installed, or is something else wrong?

Thanks,

- Jonathan

Jonathan Buonocore  
Harvard School of Public Health Doctor of Science Candidate

Department of Environmental Health

[jbuonoco@hsph.harvard.edu](mailto:jbuonoco@hsph.harvard.edu)

Office Phone: 617-384-8811 [attachment "benmap error message.docx" deleted by Charles Fulcher/RTP/USEPA/US] [attachment "benmap header.csv" deleted by Charles Fulcher/RTP/USEPA/US] [attachment "Rplot.jpeg" deleted by Prakash Bhavé/RTP/USEPA/US] [attachment "Benmap plot.JPG" deleted by Prakash Bhavé/RTP/USEPA/US] [attachment "annmean2 header.csv" deleted by Prakash Bhavé/RTP/USEPA/US]

----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhavé/RTP/USEPA/US

To: "Jonathan Buonocore" <[JBUONOCO@hsph.harvard.edu](mailto:JBUONOCO@hsph.harvard.edu)>

Cc: "Katherine von Stackelberg" <[KVON@hsph.harvard.edu](mailto:KVON@hsph.harvard.edu)>

Date: 06/22/2012 02:57 PM

Subject: RE: Revised version of aerosols paper

Hi Jonathan,

Sorry I missed your 1st question. This CMAQ run included all emission sources, including anthropogenic (vehicle exhaust, power plants, biomass burning, etc.) and natural (e.g., biogenic VOCs, sea spray, wind-blown dust). I have looked at the impacts of NO<sub>x</sub> on SOA in an earlier paper. <http://pubs.acs.org/doi/pdf/10.1021/es903506b> Our findings in Figure 4a indicate that NO<sub>x</sub> controls can reduce the total SOA concentrations, but not as effective as controlling the VOC or primary OC emissions. If you focus just on the anthropogenic SOA (Figure 4c), the most influential emitted species are the VOC.

Good question! BTW, who is your advisor?

Prakash

"Jonathan Buonocore" <[JBUONOCO@hsph.harvard.edu](mailto:JBUONOCO@hsph.harvard.edu)> wrote on 06/20/2012 12:52:01 PM:

> From: "Jonathan Buonocore" <[JBUONOCO@hsph.harvard.edu](mailto:JBUONOCO@hsph.harvard.edu)>

> To: Prakash Bhavé/RTP/USEPA/US@EPA, "Katherine von Stackelberg"

> <[KVON@hsph.harvard.edu](mailto:KVON@hsph.harvard.edu)>

> Date: 06/20/2012 12:52 PM

> Subject: RE: Revised version of aerosols paper

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> From: Prakash Bhave [Bhave.Prakash@epamail.epa.gov]  
> Sent: Wednesday, June 20, 2012 8:55 AM  
> To: von Stackelberg, Katherine Ellen  
> Cc: Buonocore, Jonathan James; Joel schwartz  
> Subject: Re: Revised version of aerosols paper

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> Prakash  
>  
> Prakash Bhawe, Ph.D. | Science Advisor for Atmospheric Modeling &  
> Analysis Division | [bhave.prakash@epa.gov](mailto:bhave.prakash@epa.gov)  
> National Exposure Research Laboratory | Office of Research &  
> Development | U.S. Environmental Protection Agency  
> 109 T.W. Alexander Dr. Research Triangle Park, NC 27711 | Room D255,  
> Mail Drop E243-05  
> ph: 919.541.2194 | fax: 919.541.1379 | [http://www.epa.gov/amad/](http://www.epa.gov/amad/Staff/bhave.html)  
> Staff/bhave.html  
> (See attached file: Draft Report Aerosols+pvb.docx)  
----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhawe/RTP/USEPA/US  
To: Jonathan Buonocore <[jbuonoco@hsph.harvard.edu](mailto:jbuonoco@hsph.harvard.edu)>,  
Cc: "von Stackelberg, Katherine Ellen" <[kvon@hsph.harvard.edu](mailto:kvon@hsph.harvard.edu)>  
Date: 06/25/2012 11:49 AM  
Subject: Conf call - Tue. 1:00-1:30pm; dial 919-541-1595

----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhawe/RTP/USEPA/US  
To: "Jonathan Buonocore" <[JBUONOCO@hsph.harvard.edu](mailto:JBUONOCO@hsph.harvard.edu)>,  
Cc: "Katherine von Stackelberg" <[KVON@hsph.harvard.edu](mailto:KVON@hsph.harvard.edu)>  
Date: 06/22/2012 02:42 PM  
Subject: RE: Revised version of aerosols paper

Evaluation of these CMAQ output against CSN and IMPROVE data has been done. I'll try to get my hands on those plots and send to you. It may be a good idea to include them (or at least some model performance statistics) in the final paper. -Prakash

"Jonathan Buonocore" <[JBUONOCO@hsph.harvard.edu](mailto:JBUONOCO@hsph.harvard.edu)> wrote on 06/20/2012 12:52:01 PM:

> From: "Jonathan Buonocore" <[JBUONOCO@hsph.harvard.edu](mailto:JBUONOCO@hsph.harvard.edu)>  
> To: Prakash Bhawe/RTP/USEPA/US@EPA, "Katherine von Stackelberg"  
> <[KVON@hsph.harvard.edu](mailto:KVON@hsph.harvard.edu)>  
> Date: 06/20/2012 12:52 PM  
> Subject: RE: Revised version of aerosols paper  
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> Prakash Bhawe, Ph.D. | Science Advisor for Atmospheric Modeling &  
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> Mail Drop E243-05  
> ph: 919.541.2194 | fax: 919.541.1379 | <http://www.epa.gov/amad/>  
> Staff/bhave.html  
> {See attached file: Draft Report Aerosols+pvb.docx}  
----- Forwarded by Renee Perry/RTP/USEPA/US on 09/20/2016 11:45 AM -----

From: Prakash Bhawe/RTP/USEPA/US  
To: Jonathan Buonocore <[jbuonoco@hsph.harvard.edu](mailto:jbuonoco@hsph.harvard.edu)>,  
Cc: Katherine von Stackelberg <[KVON@hsph.harvard.edu](mailto:KVON@hsph.harvard.edu)>  
Date: 06/24/2012 11:54 PM  
Subject: Re: Revised version of aerosols paper

---

Hi Jonathan,

I know Levy by name, but we've never met. He advised one of my colleagues at EPA, Lisa Baxter. Perhaps you know her?

The files I sent you are not "all the SOA" but rather all the SOA that originated from anthropogenic hydrocarbons. In the modeling world, this is commonly referred to as "anthropogenic SOA." There are a number of anthropogenic hydrocarbons which can form SOA (e.g., single-ring aromatics, alkanes, alkenes, PAH) but, in this simulation, the only ones which were allowed to form SOA are the single-ring aromatics (e.g., toluene, xylenes, etc.). Although the model simulation included emissions of all types (biogenic VOC, anthropogenic VOC, primary PM, NOx, etc.), the full output is too voluminous to send (>130 species). So I extracted and sent only one model species (total anthropogenic SOA), since that's the one Trina needed for this paper.

Since I've become the bottleneck on getting this manuscript submitted, Trina suggested to see if you can take over the tasks of (i) improving the SOA scale-up factor and (ii) scaling down the total anthropogenic SOA concentrations to approximate the amount that's contributed by gasoline. A conference call would be the most efficient way for me to convey the necessary info and ensure that you understand the steps in the calculations. From there, we can resume correspondence via email. Here are some times that work for me.

Mon 4:30pm  
Tue 8:30am  
Tue 1:00pm  
Tue 2:00pm  
Tue 5:00pm

Please let me know what's best for both of you. I'll reply with a conference bridge line.

thanks,  
Prakash

Jonathan Buonocore <[jonathan.buonocore@gmail.com](mailto:jonathan.buonocore@gmail.com)> wrote on 06/22/2012 06:02:10 PM:

> From: Jonathan Buonocore <[jonathan.buonocore@gmail.com](mailto:jonathan.buonocore@gmail.com)>

> To: Prakash Bhawe/RTP/USEPA/US@EPA  
> Cc: Katherine von Stackelberg <KVON@hsph.harvard.edu>  
> Date: 06/22/2012 06:02 PM  
> Subject: Re: Revised version of aerosols paper  
>  
> Thanks Prakash, my advisor is Jon Levy, who is at Boston University now.  
>  
> So this layer is all the SOA in the base run, right? Can we fairly  
> say this is largely attributable to vehicle VOCs, since they are the  
> major source of anthropogenic SOA precursors?  
>  
> - Jonathan  
>  
> On Jun 22, 2012, at 2:57 PM, Prakash Bhawe wrote:  
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> Hi Jonathan,  
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> total SOA concentrations, but not as effective as controlling the  
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> SOA (Figure 4c), the most influential emitted species are the VOC.  
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> >

>  
> > Prakash Bhawe, Ph.D. | Science Advisor for Atmospheric Modeling &  
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> > 109 T.W. Alexander Dr. Research Triangle Park, NC 27711 | Room D255,  
> > Mail Drop E243-05  
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> > Staff/bhave.html  
> > (See attached file: Draft Report Aerosols+pvb.docx)